MAISHI

ARCHITECTURAL METAL MESH

Installation Guide

Practical installation guidance for MAISHI architectural metal mesh across the most common applications. Use it together with the product data sheets and the shop drawings issued for your project.

1. Before You Start

Every installation should be designed by the project architect or engineer in line with local building codes. Use the nominal weight on each product data sheet to check loads on the supporting structure, and confirm wind, impact and guardrail loads where they apply.

- Survey the openings and substructure on site and confirm dimensions before panels are released for production.
- Handle panels with clean gloves, lift by the frame rather than the mesh and keep protective film on until installation is complete.
- Store panels flat, dry and off the ground; do not stack heavy items on unframed mesh.
- Use stainless steel fixings (A2/304 indoors, A4/316 outdoors or in coastal areas) and isolate dissimilar metals with nylon or EPDM washers to prevent galvanic corrosion.
- Leave a 3-5 mm movement gap between adjacent panels for thermal expansion on exterior work.

2. Framed Panel Systems (U-Edging, Flat Bar, Angle)

Most rigid MAISHI patterns are supplied as framed panels, cut to size and edged at the factory. The frame protects the cut wire ends, stiffens the panel and provides the fixing points.

- U-edging: a channel that wraps the mesh edge. Fix through the channel web with countersunk or pan-head stainless screws at 300-400 mm centres. Ideal for infill, partitions and screens.
- Flat bar: welded or bolted to the mesh perimeter for a slim, minimal border. Fix with concealed clips or through-bolts into the substructure.
- Angle frame: the L-profile adds stiffness to large panels and creates a natural stand-off from walls. Fix through the return leg at 400-600 mm centres.
- Check that each panel sits flat and square before final tightening; tighten fixings evenly to avoid distorting the mesh.

3. Facade Cladding

Facade panels are fixed to a secondary substructure of aluminium or galvanized steel rails that is anchored back to the primary structure.

- Set out vertical or horizontal rails to the engineer's design, typically at 600-1200 mm centres depending on panel size and wind load.
- Keep a ventilated cavity of 100-300 mm between the mesh and the building envelope for airflow, drainage and maintenance access.
- Fix framed panels to the rails with stainless brackets; use slotted holes on one side to allow thermal movement.
- Install from the bottom up, checking alignment of panel joints every few panels.
- For large flexible or cable-type meshes, use top and bottom tension rods with adjustable tensioners; tension evenly until the mesh is flat without visible sag.

4. Parking Garage Screens

Parking screens are usually fixed between slab edges or between columns, combining screening with natural ventilation.

- Fix steel brackets or posts to slab edges or columns with approved anchors, following the structural engineer's design.
- Mount framed panels between brackets; on tall elevations, add intermediate horizontal rails at each floor level.
- Mesh screens are not vehicle barriers. Where vehicle impact protection is required, install an engineered barrier behind the screen.
- Choose high open area patterns to keep the required ventilation ratio for open parking structures.

5. Partitions & Room Dividers

Interior partitions are normally installed floor-to-ceiling in channels, or suspended from the ceiling.

- Floor-to-ceiling: fix a top channel to the ceiling structure and a bottom channel to the floor; slide the framed panel into the top channel, lower it into the bottom channel and secure with set screws.
- Suspended: hang the panel from the soffit on stainless cables or rods with adjustable grippers, and add a floor pin or bottom guide to stop the panel swinging.
- Use rubber or silicone gaskets in channels to prevent rattling.
- For free-standing screens, use weighted bases or floor plates sized by the supplier for the panel height.

6. Ceilings

Mesh ceilings are suspended below the soffit so that services, lighting and sprinklers remain accessible and functional.

- Hang a carrier grid from the soffit with threaded rods or adjustable hangers, typically at no more than 1200 mm centres; add safety wires as required by local code.
- Lay framed panels into the grid or clip them to the carriers; use hinged or drop-down panels where regular access is needed.
- Coordinate panel layout with lighting, diffusers and sprinkler heads; confirm with the fire engineer that the chosen open area suits the sprinkler design.
- Check the total ceiling load using the nominal kg/m2 weight plus frames and fixings.

7. Railings & Balustrades

Mesh infill panels are fixed between handrail posts and must meet the guardrail loads and opening limits of the local code.

- Frame each infill panel with U-edging or flat bar so that no cut wire ends are exposed.
- Fix panels to posts with stainless clamps or welded tabs; on stairs, panels can be cut to follow the rake of the stair.
- Select a pattern whose opening does not allow a 100 mm (4 in) sphere to pass, or the limit required by your local code.
- Confirm the assembly with the project engineer for the applicable line and infill loads before installation.

8. Elevator Interiors & Wall Cladding

Dense decorative meshes are mounted on backing panels or a light subframe to create a flat, refined surface.

- Mount the mesh on a rigid backing panel (for example aluminium honeycomb or MDF for dry interiors) and fix the panel with concealed clips or Z-hangers.
- Alternatively, frame the mesh and fix it on a stand-off subframe to add depth and allow lighting behind it.
- For elevator cabs, coordinate panel weight, thickness and fixing details with the elevator manufacturer before production.
- Fold or wrap edges into returns where corners need a clean finish.

9. Cleaning & Maintenance

Stainless steel mesh needs little maintenance, but regular cleaning keeps the finish looking its best.

- Clean with warm water and a mild, chloride-free detergent using a soft brush or cloth, then rinse with clean water.
- Avoid steel wool, abrasive pads and cleaners containing chlorine or hydrochloric acid.
- In coastal or polluted environments, specify 316 stainless and wash exterior mesh every 3-6 months.
- Inspect fixings once a year on exterior and ceiling installations.

This guide provides general recommendations only. Final design, fixing details and load verification must be carried out by a qualified engineer in accordance with local building codes and project specifications.